Washing device

The invention relates to a washing device designed for at least partial cleaning and/or care and/or disinfection of a human foot.

Many elderly, ill, disabled or overweight individuals experience considerable problems in cleaning their own feet. The cleaning often has to be done by a second person, since the mobility or stability of these individuals is limited and in some cases this makes cleaning their own feet quite impossible. In addition, younger healthy individuals also find cleaning their own feet generally unpleasant. The same problems arise in connection with pedicure, which also requires sufficient mobility and stability of the individual.

In addition, Muslims pray five times a day and, if possible, are meant to wash their head, face, arms and feet before praying. This ritual washing is for purification. The problem here is that, especially in Arab or African countries, the traditional clothing worn by worshippers makes cleaning their own feet difficult and sometimes quite impossible. In this connection, female worshippers are also not allowed to show bare feet in the presence of males, which makes cleaning their feet still more difficult.

The object of the present invention is to make available a washing device of the aforementioned type with which an individual can easily and safely clean and care for his or her own feet, without having to bend down or use their hands for cleaning the feet.

According to the invention, this object is achieved, in a washing device of the aforementioned type, by the fact that at least one plate-shaped base body and at least one cleaning body connected to the base body are provided, the cleaning body being designed for cleaning and/or care and/or disinfection of at least parts of the human foot, and the base body being arranged on the ground. The washing device according to the invention makes it possible easily to clean and/or care for and/or disinfect a foot by moving it to and fro relative to the cleaning body, after the foot has been placed on the washing device according to the invention. In this way it is easy for individuals to wash their own feet without using their hands. All that is required is for an individual to place at least one foot on the washing device, thereby setting the base body firmly against the ground, and then to move the foot over the cleaning body so that cleaning and/or care and/or disinfection of the foot takes place. This is of advantage for sick and elderly individuals and facilitates the ritual washing of feet in observing the conditions prescribed by Islam. The base body and/or the cleaning body can in principle have any shape and/or colour.

The cleaning body can be connected directly or indirectly to the base body. In addition to simple cleaning, the cleaning body also permits other functions in connection with the cleaning of the feet, including, in addition to care and/or disinfection, also drying the feet with the aid of the cleaning body. The washing device according to the invention can additionally be provided as a means of helping get into or out of a shower or a bath. The size of the base body is in principle arbitrary, the base body can

preferably have a width of 150 mm to 250 mm and a length of 250 mm to 400 mm. Likewise, the basic shape of the washing device is arbitrary, for example the base body can have a foot shape.

To be able to replace a cleaning body after use or after repeated use in order to wash it for hygiene reasons, it is possible for the base body and the cleaning body to be connected to one another in a releasable manner. In principle, it is of course also possible to design the base body and the cleaning body in one piece. The base body can be connected releasably to a support structure and have a substantially non-slip underside. This makes it possible to use the washing device irrespective of location. The base body can preferably be designed for placing on the ground, but in principle the washing device can also be secured with the base body on a side wall of a bath tub, shower or the like. In this case, the washing device according to the invention can be used not just to clean the feet but also to clean other parts of the body, for example for washing the back in a shower cubicle. The non-slip underside of the base body ensures that the user has a stable stance, in particular if the support surface is wet. In principle, the base body can also be arranged fixedly in location and be connected to a collecting vessel for wash water, so that during and after washing of the feet the wash water runs from the washing device via a suitable outlet into a collecting vessel or into the sewage system. If the base body is arranged in a fixed position, the cleaning body is preferably connected to the base body in a detachable manner in order to be able to replace the cleaning body on a regular basis for washing purposes and to be able to guarantee a high level of hygiene.

For securing to the support surface, a large number of securing means can be provided on the underside of the base body. It is likewise possible for the underside to have a contour allowing it to be positioned on the support surface in a manner secure against slipping. In the simplest case, the securing means can be provided in the form of suction cups which permit firm suction, for example in suitable vessels, such as bath tubs or the like. It is also possible to place the washing device on the surface of a tub insert or a shower trough or the like. To use the washing device in Muslim countries, a flat trough can be provided in which one or more washing devices of the described type can be fitted. Here, the washing device can be at least partially gold or silver-coloured and have suitable ornamentation which is aesthetically pleasing. The trough itself can have an inlet and outlet for wash water. The wash water accumulating during washing of the feet can then be collected directly and then disposed of, which facilitates using the washing device according to the invention in any desired location. In this connection, it is also possible that the base plate as such is designed as a trough shape or has a surrounding edge which extends above the cleaning body and is provided for collecting the wash water.

The base body and/or the cleaning body can be elastic or foldable. In principle, the base body can of course also be designed as a rigid plate, the elastic design permitting adaptation of the base body to a non-level support surface. The foldable design of base body and/or cleaning body allows it to be easily stowed away after use.

The base body can have an opening for draining off liquid, a large number of openings preferably being provided. In addition, the base body can be connected to an outlet for wash water, as has already been mentioned.

The base body can have at least one insertion area for the cleaning body, the cleaning body in this case being able to be fitted at least partially or completely into the base body. For example, the base body can have an insertion area for a sponge part and/or a brush part. The cleaning body can be fitted with its surface flush, in which case a frameless insertion area for the cleaning body is preferably provided in the base body. This ensures that when cleaning the foot it is not possible to injure the body of the foot. The cleaning body can be pressed onto or into the base body. In addition, it is possible for the cleaning body to be sewn, welded or bonded to the base body.

For releasable securing of the base body to the cleaning body, the top face of the base body and/or the underside of the cleaning body can have a securing surface and/or at least one securing means. For example, the top face of the base body and/or the underside of the cleaning body can be ribbed, knurled, smoothed or contoured in places, in order to connect the base body to the cleaning body in a manner secure against slipping. Other interacting securing means can also be provided. The underside of the cleaning body can preferably be provided with a netting part which interacts with knobs of the base body and thus avoids lateral slipping of the cleaning body away from the base body during the cleaning process. Other securing means arranged in opposite directions on the base body and the cleaning body can also interact in order to fix the cleaning body relative to the base body. It is also possible for a plurality of cleaning bodies to be connected to a common securing means, in which case the securing means as such can in turn be connected to the base body. If, for example, the securing means is provided in the form of a plastic netting that hooks onto knobs on the base body during the washing process, a large number of cleaning bodies can be fixedly connected to the plastic netting. In this way, it is easily possible to release the cleaning body or cleaning bodies from the base body after a cleaning process and to clean and/or dry said cleaning body or cleaning bodies. In addition, the cleaning body and the securing means can be designed in one piece, in which case, for example, a quick-drying synthetic textile is provided for securing to the base body, for example via knobs of the base body, and, during the washing process, serves as a cleaning means for the feet. Otherwise, the securing means itself can be used for cleaning and/or care of the foot. In this case, the securing means can be provided in the form of a woven fabric and/or a synthetic netting that permits cleaning of the feet.

It is also possible for the base body and the cleaning body to be connected to one another by a catch and/or clip and/or velcro connection. Form-fit and force-fit connections are possible here. For example, the base body can be connected to the cleaning body via press studs, a velcro tape fastener, corner straps, bands, interacting edge beads of the base body and of the cleaning body, or combinations of these. The important thing is that the cleaning body does not change position relative to the base body during the washing process, such that a secure stance of a user on the cleaning body or the cleaning bodies is guaranteed.

For cleaning and/or care and/or disinfection of the feet, the top face of the cleaning body has at least one cleaning means. The cleaning means can be provided in the form of sponges, brushes, synthetic fibres, microfibres, or textiles, in particular synthetic nets. The surface of the cleaning body can have a woven fabric or fibrous coating and/or cleaning brushes, if appropriate of different lengths and/or stiffness. Different cleaning means can have a different hardness and/or a different water absorption capacity. The cleaning means as such can be connected to the cleaning body in a releasable manner. In principle, however, it is also possible for the cleaning means to be connected fixedly to the cleaning body. Here, an integral or one-piece design of the cleaning body and cleaning means is conceivable. In the latter case, the cleaning body as such represents a suitable cleaning means, it being possible for the cleaning bodies to be provided in the form of sponges, brushes, synthetic fibres, textiles, in particular synthetic nettings, which are connected on the underside to the base body. Furthermore, different cleaning means can be arranged alongside one another in order to satisfy different purposes. For example, massage sponges or the like can be provided along the edges on the base body, whereas, in the inner area of the cleaning body, cleaning means for washing the feet are provided. The cleaning means can be sewn, knotted, bonded, welded or pressed onto the cleaning body. The cleaning means and if appropriate the cleaning body are preferably fully washable, quick-drying and easily replaceable. Different designs of cleaning means can be used for different applications of the washing device according to the invention, in which case the cleaning means can be connected to the cleaning body in such a way as to be exchangeable. For example, the cleaning means can have a different hardness and/or a different water absorption or storage capacity. For example, cleaning means can be provided for cleaning the feet with water, and other cleaning means can be provided for treating the feet with a cream or the like. If the cleaning body has a large number of cleaning means, these can be arranged over one another and/or alongside one another. For example, decorations or patterns can be formed by arrangement of the cleaning means on a cleaning body, in which case the cleaning means can have different colours. The cleaning means should be soft enough to allow a user to find the cleaning process a pleasant one. Moreover, the cleaning means must ensure a secure tread, thereby reducing the risk of accidents during the washing process.

In a particularly preferred embodiment, a preferably compressed synthetic netting is provided as the cleaning means. The synthetic netting can be secured, preferably sewn, onto the cleaning body in a gathered, folded or twisted form in a longitudinal, transverse, diagonal, circular or zigzag shape. A plurality of adjacent synthetic nettings can also be connected to the cleaning body. In this context, it is also possible for one respective cleaning body to be fixedly connected to one cleaning netting and for a plurality of cleaning means to be connected to a common securing means in order to connect the cleaning bodies to the base body. Compressed synthetic nettings have the advantage that they offer a large surface area for substance exchange, which contributes to particularly intensive and thorough cleaning of the feet in the cleaning process.

In the last-mentioned embodiment, the compressed synthetic netting can have a compression ratio of from 1:4 to 1:20 with respect to the original length. The synthetic netting can be fixedly connected in the compressed state to the cleaning body. In this

way, a particularly large surface area for substance exchange is made available for the cleaning process.

To permit cleaning of the feet that provides even more sense of well-being, the top face of the cleaning body can be covered only partially with one or more cleaning means, in which case, preferably, an indent area for at least a part of the foot is formed between two adjacent cleaning means. It is of course likewise possible for a plurality of cleaning bodies to be connected to the base body in such a way that an indent area for at least a part of the foot is formed between the cleaning bodies. In principle, the cleaning means can of course also be distributed across the entire surface of the cleaning body.

A deep-pile fibre material can be provided as the cleaning means. This makes it possible, for example, to also use the washing device as a foot drier. In this connection, it is possible for the cleaning body to be made larger than the base body, which permits easy drying of the feet. The base body can be folded up together with the cleaning body and with the cleaning means in order to save space and for easier storage.

In addition, the washing device according to the invention can have a washing strap for cleaning the instep. This strap can be made of textile and preferably elastic woven fabric and be secured to the base body and/or to the cleaning body by eyelets, hooks, velcro tapes, press studs or fabric tapes. The washing strap can be designed in one or more pieces. The inside of the washing strap can have at least one cleaning means, preferably a cleaning means of the type already described, for cleaning and/or care and/or disinfection of the instep. In addition, the washing strap and the one or more cleaning means can be made of the same material and if appropriate can be designed in one piece. In every case, the washing strap must not adversely affect the secure stance of a user on the washing device.

To lift the base body and/or cleaning body from the support surface, a lifting means is preferably provided which can be connected fixedly or releasably to the washing device. For example, after the cleaning process, the washing device can be lifted from the ground with a band or with a cord or with a rod-shaped lifting means. This makes it easier to take hold of the washing device without a user of the washing device having to bend down after the washing process. The rod-shaped lifting means can additionally be used as a support during the washing process. To permit stable holding of the washing device during the cleaning process, securing arrangements for at least one lifting means can be provided on opposite and on other sides. For example, a cord can be secured on three of four sides of a quadrilateral base body in order to be able to hold the washing device during the cleaning process and secure it in a fixed position. The washing device can additionally have securing means which, after the washing device has been lifted from the ground, allow it to be secured on a side wall, for example in the inside of a shower cubicle.

The washing device according to the invention can also be used in public swimming baths or the like as a disinfection device, in which case the cleaning means can be impregnated with a disinfectant. For example, an impregnated sponge or woven fabric can be provided as the cleaning means. The washing device should in this case

preferably have such large dimensions that it is not possible for people in the swimming baths to bypass the washing device. For example the washing device can be arranged on the floor in the area of a door of a public swimming pool, so that persons entering or leaving the swimming pool area necessarily have their feet disinfected on walking through the washing device.

There are in fact many possible ways of embodying and developing the washing device according to the invention, reference being made in this connection to the dependent patent claims and also to the following detailed description of a preferred illustrative embodiment shown in the drawing, in which:

Fig. 1 shows a schematic representation of a base body of a washing device according to the invention, and

Fig. 2 shows a perspective representation of a washing device according to the invention, with the base body represented in Fig. 1.

In Fig. 1, a base body 17 is shown that forms part of a washing device 18 represented in Fig. 2, which washing device 18 can be provided for cleaning and/or care and/or disinfection of the human foot. The base body 17 shown in Fig. 1 has knobs 19 on the top face, suction cups 20 on the underside, and otherwise a large number of openings 21. In addition, a band 22 is secured to the base body, with which band 22 the base body 17 can be lifted from the ground and hung on a wall. For this purpose, the band 22 has two loops 23, 24, the loop 23 being provided at the end of the band 22 and the loop 24 being provided more or less at the middle of the band 22. The loops 23, 24 are secured to the band 22 and allow the band 22 to be hung at two positions on a hook, which is secured for example on a wall of a shower cubicle.

Fig. 2 shows the washing device 18 in the operating state. In the present case, three cleaning bodies 25 are connected to the base body 17, said cleaning bodies 25 being sewn onto a netting 26. The netting 26 has at each of the corners an insertion area 27 into which the corners of the base body 17 engage when the netting 26 is drawn onto the base body 17. The netting 26 has a honeycomb structure, such that when the washing device 18 is being used the knobs 19 of the base body 17 engage in the honeycombs of the netting 26. This rules out any possibility of the netting 26, and thus of the cleaning bodies 25 connected to the netting 26, shifting relative to the base body 17 during the washing process.

Although the washing device 18 in Fig. 2 has three cleaning bodies 25, it is also possible to provide more or fewer and/or different cleaning bodies 25. For example, mesh, brush and fibre materials can be arranged alongside one another in order to perform different types of cleaning and foot care functions. The cleaning body 25 has two reinforcement areas 28, which can be provided for sewing the cleaning body 25 to the netting 26. The reinforcement areas 28 also ensure a greater stability of the cleaning body 25. In principle, a cleaning body 25 can also have more than two reinforcement areas 28 or have no reinforcement areas 28 at all.

In the present embodiment, each cleaning body 25 is sewn onto a cleaning means 29, said cleaning means 29 being a tube of a synthetic netting which, in a multiply compressed state, is sewn fixedly onto the cleaning body 25. It will be understood that the synthetic netting extends over the entire length of the cleaning body in the embodiment shown. A textile mix of netting and microfibres, bristles and sponges can also be used as cleaning bodies 25. The cleaning bodies 25 are arranged relative to one another in such a way that, between two adjacent cleaning bodies 25, an indent for at least a part of a foot (not shown) is formed which, during the washing process, reaches at least partially into the area between the adjacent cleaning bodies 25 and between adjacent cleaning means 29. The cleaning means 29 and the particular type of arrangement of the cleaning bodies 25 on the base body 17 guarantees a high degree of cleaning when washing the feet. The cleaning process is additionally improved by the very high specific surface area of the compressed synthetic netting. Moreover, it will be noted that for the sake of simplicity the cleaning body 25 and the band 22 provided for lifting the base body 17 up can be designed identically. The cleaning body 25 and the band 22 can be synthetic lattices in which the reinforcement areas 28 can contribute to greater stiffness of the synthetic lattice.

In addition, instead of a tubular synthetic netting, the cleaning means 29 can also be a synthetic netting that has been folded up several times. The base body 17 can be a flexible synthetic mat having sufficient elasticity to allow it to be placed secure against slipping on a support surface or on the ground, even an undulating support surface. Moreover, provision can be made to secure the cleaning means 29 directly to the base body.

The result is that the whole of the washing device 18 depicted here can be stepped onto and ensures complete safety, thus minimizing the risk of accidents. The figures do not show how the washing device 18 can be connected to a washing strap for washing the instep. The washing strap can be made of textile fabric and be secured with eyelets, hooks, velcro tapes, press studs, buttons or fabric tapes to the washing device 18. Direct connection to the washing device 18 is also possible. The washing strap can be made at least partially of an elastic material and, if appropriate, can be produced from one continuous section. On the inside, the washing strap can have the cleaning means already described. The washing strap is secured to the washing device 18 in such a way as not to compromise a non-slip stance on the washing device 18.